REMARKS

Claims 1 and 4-16 are pending. Claims 1, 6, 7, and 9 have been amended and claims 2, 3, and 17-20 have been canceled.

In the Office Action, claims 1-20 were rejected under 35 USC § 102 based on the Colmant patent. Applicants request the Examiner to withdraw this rejection for the following reasons.

The Colmant patent discloses a manager 10 for controlling the transfer of data into and out of a queue 20. The queue is provided as an intermediate storage device for allowing data to be transferred between a plurality of interface units, which the Examiner has compared to the links of the claimed invention. A data transfer from the queue is performed when a FIFO in one of the interface has an available space and there is data in the queue to be sent to that interface.

The Colmant patent also discloses an addressing scheme which requires the use of memory pointers during read and write operations. However, the Colmant patent does not disclose the features of the invention added by amendment to claim 1, including: "wherein the queue includes at least one dual-port random access memory (DPRAM) and wherein the number of banks corresponds to a number of address bits allocated in the DPRAM for one or more of the links, and wherein an address in the DPRAM is computed by combining a start address for one of the links and bits corresponding to an extra total address." (See, for example, Paragraphs [54], [77], and [82] of the specification for support).

Absent a disclosure of these features, it is respectfully submitted that the Colmant patent does not anticipate claim 1. Furtherance of claim 1 and its dependent claims to allowance is therefore respectfully requested.

Claim 6 recites that "the queue is formed from at least one dual-port random access memory (DPRAM) and wherein the number of banks corresponds to a number of address bits allocated in the DPRAM for one or more of the links." The Colmant patent does not disclose or suggest these features.

Claim 7 recites similar features and therefore is distinguishable for similar reasons

Dependent claim 8 recites how the banks are assigned according to one embodiment. In claim 8, the banks are assigned by " selecting a first link, checking whether the link is in use, and if the link is in use, checking whether a second link is in use and increasing a link count until a last link is checked; if the first link is not in use, assigning a desired number of banks to the first link and assigning a start address and an end address to the link; and assigning one or more banks to the second link by increasing a start address and end address of the second link by referring to the end address of the first preceding link."

These features are not disclosed in Colmant, i.e., Colmant discloses that a plurality of transmit and receive queues are provided in storage unit 20 for transferring data between interfaces, but these queues and banks within the queues are not assigned in the manner recited in claim 8.

Claim 9 recites "checking whether there exists one item of data to be written in the queue beginning with the first link until the last link has been checked," "setting a write pointer with the increased total address," and "checking whether a current address of the link is the highest address of the bank by referring to the total address." And, "if the current address is the highest address, toggling write carry for the next link, assigning the lowest bits to the total address, or if the current address is not the highest address, checking whether there is data for the next link." These features are not disclosed by the Colmant patent. Furtherance of these claims and their dependent claims to allowance is therefore respectfully requested.

Dependent claim 11 recites that "when the current address of the link has not reached the highest address of the bank, if the restart condition arises, said flexible queue assignment method further comprises initializing address-related parameters of each link." The Colmant patent does not disclose these features, i.e., Colmant discloses storing parameters for each of the queues in storage 30, but Colmant does not initialize address-link parameters for each link in the manner recited in claim 11.

Claim 14 recites "determining a range of each link; from the first link to the last link, comparing the write carry and read carry sequentially and calculating a difference of pointers according to the comparison; and if the write carry and the read carry are the same, generating the full signal indicating a full or not-full state depending on whether said difference of pointers is within certain user-specified range." These features are not taught or suggested by the Colmant patent.

Claim15 recites that the difference of pointers in claim 14 "is calculated by subtracting the read pointer from the write pointer if the write pointer and the read pointer are the same, or if the write pointer and the read pointer are not the same by calculating the difference of the write pointer and the read pointer reflecting the range of link." These features are not taught or suggested by the Colmant patent.

Claim 16 recites that data from the queue is read by checking whether the empty signal is in the not-empty state from the first link to the last link, and if a link is detected to be in the not-empty state reading data through read address and read enable signal connected to the queue. The Colmant patent discloses determining that the interface FIFOs has available space and that a queue is full and then transferring data from the queue to the FIFO. Colmant further discloses that the data in the queue is accessed based on the use of memory pointers. (See the table at columns 9 and 10).

However, Colmant does not manage the access of data from its queue in the same way as the claimed invention. For example, claim 16 recites the additional steps of "increasing read address and total address by the number of data items that have been read and checking whether the current address of the link is equal to the highest address of the bank; and if the current address of the link is equal to the highest address, toggling read carry and initializing total address with the lowest address of the bank, thereby moving to a next link." Because all the features of claim 16 are not disclosed in the Colmant patent, it is respectfully submitted that Colmant does not disclose anticipate this claim.

In view of the foregoing amendments and remarks, it is respectfully submitted that the application is in condition for allowance. Favorable consideration and timely allowance of the application is respectfully requested.

To the extent necessary, a petition for an extension of time under 37 CFR § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this, concurrent and future replies, including extension of time fees, to Deposit Account 16-0607 and please credit any excess fees to such deposit account.

Respectfully submitted,
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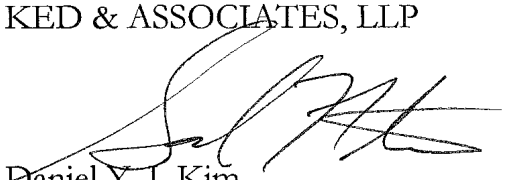

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